

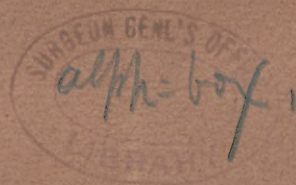
PURPLE (S.S.)

from the Author

DR. PURPLE

ON THE

CORPUS LUTEUM.



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CORPUS LUTEUM:

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ITS VALUE AS EVIDENCE OF CONCEPTION,

AND

ITS RELATION TO LEGAL MEDICINE;

WITH THE

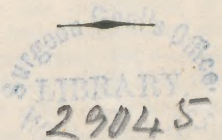
CHARACTERISTICS OF THE TRUE AND FALSE.

BEING AN ATTEMPT TO RECONCILE THE CONFLICTING OPINION OF WRITERS
BY THE RECENT DISCOVERIES IN THE PHYSIOLOGY OF THE OVARIES.

✓
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CORPUS LUTEUM.

WRITERS on legal medicine make but little mention of the difficulties that lie in the way of the formation of a correct opinion on the evidence afforded by a *corpus luteum*. Most anatomists who have attempted the description of the ovaries and their functions, have made mention of *true* and *false corpora lutea*, but give not the distinguishing mark between the two; writers on jurisprudence have taken but a casual notice of this—hence have arisen the difficulties of which we have just spoken.

The recent discoveries in the physiology of the ovaries not only tend, but actually do, when fully understood, clear up the mist that has been thrown around this subject; and the discordant opinions of anatomists, and writers on this branch of medico-legal science, may now be reconciled without the least difficulty. By many anatomists it has been supposed that every yellow body found in the ovaries was a *corpus luteum*, the result of conception. This great mistake has arisen from the want of a true and correct knowledge of the functions of the ovaries, for it was not till within a few years past that their true functions were ascertained.

In the 6th volume of this Journal we gave a paper on menstruation, in which we proved (or attempted to prove) the true nature of this function, and its connection with, or dependence upon, the ovaries. In the present paper we shall attempt to show how far the principles set forth in that paper tend to remove the difficulties which lie in the way of forming a correct opinion of the value of the *corpus luteum* as an evidence of conception.

Haller* believes, 1st, that "conception never happened without the formation of a corpus luteum;" and 2d, "that the corpus luteum is never found in virgin animals, but is the effect of impregnation." Of the truth of these two propositions there can be no doubt at the present time. Previous to the late discoveries of the true functions of the ovaries, many talented and conscientious writers doubted the truth of Haller's views, for in examining the ovaries of virgins they frequently found yellow bodies—bodies which from the circumstances of the cases could not have been the effect of impregnation—hence have arisen the many conflicting opinions of the value of the *corpus luteum* as an evidence of conception.

Haighton,† from numerous experiments which "bear every mark of

* Haller, Elem. Phys., vol. 8.

† Bostock's Element. Syst. Phys., 3d ed. note to p. 657.

accuracy and fidelity," came to the conclusion that wherever *corpora lutea* are found "they furnish incontestable proof" of previous impregnation. Cruikshank,* W. Hunter,† Baillie,‡ Meckel,§ Montgomery,|| and many recent authors, have come to the same conclusion. Blumenbach,¶ Oslander,** Sir E. Home,†† Blundell,‡‡ and some few recent writers believe that "*corpora lutea* are not the necessary result of impregnation." Bostock,§§ in order to reconcile these conflicting opinions, supposed that "the evolution of the vesicle (the vesicle of DeGraaf), and the production of the corpus luteum are, in all cases, essentially dependent upon the actions of the female, and that the office of the male does not commence until after this previous step of the progress." Had Mr. Bostock been fully acquainted with what now is generally believed to be the true function of the ovaries, he would not, we think, for a moment have entertained, much more put forth, such a supposition. Indeed, there would have been no necessity for it—facts, truths, are the great lever of the inductive system. With the chain incomplete, or broken, we wander in the mist of hypothesis, but when once complete, we are led with undeviating certainty to correct conclusions.

We have said that every yellow body found in the ovaries was not a corpus luteum, and we are compelled to believe this from numerous and repeated *post-mortems* made many times with special reference to the elucidation of this subject. Every one who has made the ovaries of the human female a particular object of study, must have been forcibly struck with the different appearance of yellow *spots* or *bodies* found in them.

In order that we may be as clearly understood as possible, we shall divide, according to the practice of most writers (although the division is not in truth as correct as might be), all yellow bodies found in these organs into true and false *corpora lutea*. By *true* we shall mean, a peculiar yellow body found always after conception. By *false* we shall mean those yellow bodies, or spots, found in these organs under various circumstances, apparently connected or not with conception. It might have proved interesting and perhaps profitable, had our limits permitted, to have given an account of the literary history of this subject, with extracts from some of the older writers, but we forbear, and with pleasure refer our readers to a series of valuable papers by R. Paterson, M.D., of Leith,||| which may be looked upon as the most valuable in the profession. As much diversity of opinion exists as to the appearance of the true *corpus luteum*, we shall, before proceeding farther, give the general characteristics of this body in the human female. A more vivid and correct description cannot, in our opinion, be given, than the one found in Dr. Montgomery's work,¶¶ which, although rather lengthy, we have thought

* Phil. Trans., 1797.

† Hunter's Anat. Grav. Uter., 1775.

‡ Baillie's edit. of the same, 1794.

§ Meckel's Gen. Descr. and Path. Anat., Amer. ed., vol. 3.

|| Montgomery on Pregnancy, Lon. 1837.

¶ Blumenbach, Spec. Phys. Compar., 1788.

** Meckel's Anat., ed. cit., vol. 3.

†† Sir E. Home's Lectures, Comp. Anat.

‡‡ Blundell, Phys. Res., 1824, Lond.

§§ Bostock's Elem. Syst. Phys., p. 658, edit. 3, 1836.

||| Edinburgh Medical and Surgical Journal, vols. 53, 4, 5, and 6.

¶¶ Montgomery on Pregnancy, Amer. ed., p. 149, et seq.

best to copy. He says, "If we examine the ovaries of a pregnant woman, especially if her conception has been recent, we observe, that the one which has supplied the germ differs, in several remarkable particulars, from its fellow of the opposite side; it strikes the eye at once as being larger, rounder, and more vascular; to the touch it feels fuller and softer: we perceive further, that this increase of size of the one is not so much the result of an increased development of the whole substance, or body of the organ, as of the addition to it, at one part of a tumor, projecting more or less from its natural outline, as we find in the eye, where the circumference of the cornea projects from the outline of the globe, the segment of a smaller circle being superimposed on that of a greater. When we examine the protuberant part, of the impregnated ovary, we find that the increased vascularity is principally confined to its limits, where we perceive, creeping on or near the surface, a few small, thread-like, and convoluted vessels, and we generally find the color of this part quite different from that of the rest of the organ; appearing as a deep, or dull, brownish yellow, seen through a slightly reddish medium; and somewhere on the surface of the prominence, we observe a distinct cicatrix or appearance as of a rent imperfectly united;* to a small extent around which the peritoneal coat appears as if abraded, or removed by slight superficial ulceration; and here it is that the twining vessels just mentioned are most distinctly observable.

"This is the point through which the ovulum escapes from the ovary, but it is almost invariably closed up, and impervious, except it happens to be examined within a few days after the passage of the germ. The external changes by which we recognize the existence of the corpus luteum in the human ovary, are most obvious in the earlier periods of pregnancy, while there is, as yet, the central cavity, and a degree of vascularity and vital action present; these afterwards subside, the cavity begins to close in, and the corpus luteum losing somewhat of its size, the increased bulk of the ovary is proportionably reduced also. Having satisfied ourselves of the presence of the external characters, we proceed to examine the internal structure; in order to do which we should make a section of the ovary, carrying the knife through the centre of the prominent part, so as to divide the ovary into two longitudinal sections, by which we expose the corpus luteum. In form and size, it is almost always more or less oval fabiform, with its longer axis varying from four to five-eighths of an inch, and the shorter from three to four-eighths; its thickness is generally less than its breadth. Thus it occupies from a fourth to one half of the whole area of the ovary, according to the period of gestation at which it is examined, the size being generally in the inverse proportion of the time elapsed since conception.†

"Its structure is obviously and strikingly glandular, having a lobulated appearance, with slight convolutions, resembling not a little the section of a human kidney;‡ or, as some one has said, it is like a miniature of the particular section of the brain called by anatomists *centrum ovale*.

* "Cavam cicatricem referens, qualis ab ulcusculo male curato remanere solent."
—NOORTWK.

† This last remark, we are sorry to say, is not in accordance with the result of our own investigation, for we were loth to believe, until obliged to, that this accurate description in all other respects, was incorrect in this particular. Farther on in this paper we shall give the result of our own researches on the development of this body.—S. S. P.

‡ "Glandulanum conglomeratum adinstar"—*De Graaf*, p. 177.

It is very vascular, small vessels being frequently visible without any preparation; but if fine colored injections have been previously thrown into one of the branches of the spermatic arteries going to the ovary, the vessels of the corpus luteum will be filled with the coloring matter, and are to be seen running from its circumference towards its centre. The injection will also pass readily and freely into the little serpentine vessels on the surface of the ovary, over the corpus luteum, and around the rent in the external covering; and not unfrequently some of the injection is found extravasated into the central cavity, especially at early periods of conception.

"Its color is, as its name implies, a dull yellow, very similar to that of the buffy coat of the blood, exhibiting generally,* when recently exposed, a slightly reddish tinge, '*ex flava rubens*.'† Its centre exhibits either a cavity, or a radiated or branching white line, according to the period at which the examination is made; if within the first three or four months after conception, we shall, I believe, always find the cavity still existing, and of such a size as to be capable of containing a grain of wheat at least, and very often of much greater dimensions; this cavity is surrounded by a strong, white cyst (the inner coat of the Graafian vesicle), and as gestation proceeds, the opposite parts of this approximate, and at length close together, by which the cavity is completely obliterated, and in its place there remains an irregular white line, whose form is best expressed by calling it radiated, or stelliform.

"Of this latter appearance it ought to be observed here, that it is visible as long as any distinct trace of the corpus luteum remains, and forms one of the most essential characters, distinguishing this body from every other that might be confounded with it."

We owe an apology to our readers for making so lengthy a quotation, but a clearer description, it seems to us, cannot be given in justice to the subject. True, we might have said that its size was that of a cherry; its structure in appearance glandular; its color, as its name implies, yellow, in the early stages vascular to a greater degree than later; possessing in its early stages a cavity, at a later period a cicatrix. Such a description might have answered for those acquainted with the subject, but to a majority of the profession it would have been hardly intelligible, much less sufficient for a correct guide in a *post mortem* examination.

In speaking of the development of the *corpus luteum*, Dr. Montgomery gives it as a general rule, that the size of the body is "generally in the inverse proportion of the time since conception." In ten cases which we have examined in reference to this, four of which were at or near the fourth month of pregnancy, three at or near the seventh, two at the second, and one at the full period of gestation; the greatest size was found to be at the fourth month. Whether this is in accordance with the result of the investigation of other writers, I am unable to say. Dr. Montgomery supposes the size to be governed by the size of the Graafian vesicle. We can easily see, *à priori*, that this might be the case. After delivery it rapidly disappears, and generally by the end of the fifth month all distinct traces are lost. We have not been able to discover any traces of it later than the fourth month, although we have

* The reddish tinge is peculiar to the first three or four months of pregnancy, after which time it rapidly disappears.—S. S. P.

† Haller, "*Ex luteo rubens*." Bæer, "*E rubella flava*."—Roderer.

often examined the ovaries of females to ascertain this point. Dr. Paterson thinks he has discovered distinct remains of it as late as the seventh month after delivery, at the full period of gestation; Dr. Montgomery as late as the fifth.

Besides the yellow body which has just been described, there are others, a description of which it becomes necessary to give in this place. All who have examined the ovaries of the human female, must have noticed small yellow spots, or bodies varying in size and the degree of color, in the substance of these organs. These are the bodies which have given rise to the great diversity of opinion that exists in the profession, on the value that ought to be attached to the corpus luteum, as an evidence of conception. These bodies owe their origin to various causes. Thus, at each menstrual period, when the rupture of a Graafian vesicle takes place, the cavity left by the escape of the fluid and the ovum is immediately filled with blood; the red globules being soon absorbed, the fibrin is left as the result. This remains a greater or less length of time, varying according to circumstances. This is the body that Mr. Ritchie has denominated "*corpora menstrualia*," a name, by the by, to which we can see no reasonable objection—and this is the body which is most liable to be confounded with the true *corpus luteum* in its early stages only, as we shall see in the subsequent part of this paper. Again, inflammation of the serous, or inner membrane, lining the Graafian vesicle, by which lymph is cast out, causing an apparent (at least) hypertrophy of the vesicle; effusion of blood, in a greater or less degree, into the proper substance, the structure of the ovary, constituting the true apoplexy of the organ; cysts or cavities filled with a fatty substance of a yellow color; have been described as false *corpora lutea*. On examining the ovaries we frequently have found a small, hard point, like a tubercle, sometimes of a yellow, at others of a grey color, having the consistence of cartilage. Whether this is in any way connected with a degeneration of a Graafian vesicle, we are not able to say. This has been pointed out to us as a virgin corpus luteum. These bodies, which we have just described, vary from one to three lines or more, in size. Those which arise from the rupture of a Graafian vesicle, are sometimes larger, and are irregular in shape, sometimes oval, at others round, and at others of a square or triangular shape; to the naked eye they possess no blood-vessels. When a very fine, minute injection is thrown into the spermatic arteries, and completely fills the minute vessels of the ovaries, it does not enter into these bodies; hence Dr. Montgomery makes this one of the marks of distinction between *true* and *false*. From the want of free vascular connection, they do not possess that peculiar appearance which characterizes the true, and which Hunter terms "tender and friable, like glandular flesh."

The bodies which we have just described, together with the cicatrices which are always seen on the surface of the ovaries of females who have menstruated, have very often been mistaken for true *corpora lutea*, and described as such by lecturers, and even by "writers on Forensic Medicine."* They possess none of the characteristics of the corpus luteum which is the result of conception, unless it may be the yellow color, and even this is not always the color of the true corpus luteum; for we have frequently seen it of a reddish brown. Again, in the false body the yellow-

* Smith's Principles of Forensic Medicine, p. 489, edit. 1821.

ish matter is contained within the inner membrane of the Graafian vesicles, whilst that of the true body is formed between the two membranes. On this point, however, there is still some dispute. Bæer,* Valentine, and others, believe it to be the inner membrane of the Graafian vesicle in a thickened state. Dr. Lee, of London,† is of the opinion "that it is formed around the outer surface of both these coats (the outer and inner coats) of the Graafian vesicle, and that the stroma of the ovarium is in immediate contact with the external surface of the yellow matter." While De Graaf,§ Montgomery, Paterson, and most of modern writers believe, as we stated above, that it is formed between the two membranes. The great difficulty that exists in determining this point arises from the want of a sufficient number of examinations in the early periods of pregnancy. Unfortunately for the elucidation of this subject, these do not frequently occur, and when they do, unless it be at a later period than the third week, we are very liable to confound them with the condition that is known to exist during the flow of the catamenia. We have not had it in our power to examine any case earlier than at or near the second month of pregnancy. Dr. Paterson, in the *Edinburgh Medical and Surgical Journal*, Vol. I., for 1840, gives the history of a number of cases in which (he supposes) conception took place only a few weeks previous to death; but as the precise period of time is doubtful, in the cases mentioned, we are led to place but little dependence upon the condition pointed out as peculiar to the first three or four weeks of pregnancy. The case of Drs. Reid and Thomson, given by Dr. P., may be looked upon as more definite. The woman had been married six weeks previous to death. "The last menstruation ceased on the 24th of May, 1838. Her husband, a laborer, visited her at the end of every week, and her death took place on the 1st of July, that is, five weeks and one day after the first visit of her husband, succeeding to her last menstruation. The uterus was nearly one half larger than in the unimpregnated condition. The left ovary presented the most perfect specimen of a *corpus luteum* in the process of formation, which I have ever seen in the human female." In the two cases which we examined, the first was that of a young woman æt. about 20 years, who committed suicide by drowning. For rather more than two months she had been intimate with a young man, and for two months previous to her death she had not been regular. The appearances I give as I find recorded in my notes taken at the time. The uterus near a third larger than natural, filled with a soft decidual membrane, and containing the ovum. Left ovary natural. Right presents an elevation or prominence of a purplish color; over the surface can be seen numerous red, tortuous, thread-like lines, which seem to converge towards the summit of the prominence, at which point a small depression can be seen, having the appearance of an imperfectly united, ragged rupture; in the centre of this is a small opening leading into the substance of the ovary. Upon cutting through the centre of this prominence, the body causing it was of a reddish brown color, four-eighths of an inch in length, and of an irregular oval shape, containing a cavity near an eighth of an inch in diameter, and lined with a smooth, dark red membrane. This possessed all the marks of a true

* *Edinburgh Med. and Surg. Jour.*, 1836.

† *Medico-Chirur. Trans.* Vol. XXII.

‡ Graaf, de *Mulierum Organ. Generat.* Insen., Batav., 1672.

§ *Edin. Med. and Surg. Jour.*

corpus luteum. The second case was examined July 17, 1846, by Dr. W. C. Parker and myself for Dr. Rawson, coroner. The young woman, æt. 21 years, committed suicide by taking a large potion of arsenic. She stated to one of her most intimate relatives, about a month previous to death, that she had not been "unwell" for a month, and that she was in the "family way." She was receiving the addresses of a young man, and was known not to have menstruated for two months. I give the appearance of the uterine organs as taken at the time:—Uterus a little larger than natural. Right ovary presented a number of cicatrices upon its surface, the left about one-third larger than the right, soft and more vascular. The increased size appears to be owing to a prominence of a dark purple color, having creeping over its surface a few bright red vessels. On the summit of this prominence is a small depression which leads to an opening, which will not, however, admit a small probe. On making a section of this prominence, a yellow vascular body is found, six lines in length and five in breadth, possessing a cavity lined with a smooth dark red surface. This body presents the appearance which Hunter terms "tender and friable, like glandular flesh." This specimen was examined by Prof. J. B. Beck, of this city, who pronounced it at once to be a true corpus luteum, about two months from conception.

We have given these two cases, thinking that they might throw some light upon the investigation of the early stages of this body. The other cases which we have, possess nothing peculiar in their appearance, and we, therefore, have thought best not to give them in detail. By way of contrast, we will now give the appearance of a false corpus luteum, the result of menstruation. The patient was known to have menstruated 24 days previous to death. She was the mother of three children, the youngest æt. 6 years. She died suddenly from suffocation—was 32 years old. On examination, the uterus was healthy and of natural size, as was also the left ovary, the surface of which presented numerous scars or cicatrices caused by menstruation. The right ovary natural in size; the surface of this also was studded with a number of scars, and presented, when cut into, a brownish yellow body two-eighths of an inch in length, one eighth in breadth, and a little more than a line in thickness, having in the centre a red streak or line. This body was situated near the surface, and produced no enlargement or prominence; immediately over it was a cicatrix. There did not appear to be any increased vascularity about the surrounding structure of the ovary. In a case which we examined on the 12th of May, 1846, for Dr. Rawson, coroner, through whose politeness we have been favored with the opportunity of examining most of the cases from which the facts contained in this paper are made up, the woman had menstruated ten days previous to death. The peculiar yellow cast was not so well marked; the absorption of the red globules of the blood, and the deposit of the coloring matter, upon which it is said, by some, in part to depend, had not taken place. The cicatrix immediately over the body existed. There was no congestion in the surrounding structure. As we have said before, when an examination is made within the first week, the opening leading to the vesicle filled with the effused blood will generally be found; but there exists no yellow appearance—at least such is the result of our own investigation.

From the cases, with the appearances, which we have given of the true and false corpora lutea, we think there can be but little difficulty in

distinguishing between the two, if we remember the prominent features which are characteristic of each even when taken separately, and the diagnosis will be much more easy if a comparison be instituted. For instance, by way of recapitulation, in the true corpus luteum, which is the result of conception, the following are the prominent points.

1. As to *external form*, being an increase in the size of the ovary when compared with its opposite, sometimes amounting to nearly one half, which seems like the addition of a portion to the substance of the ovary. The prominence of a dark color, varying from a deep red to a dark blue or purple. Upon the summit an excavation, or depression, leading to an opening into a cavity below (this last is the appearance in the early stages), and running over the surface a number of red tortuous lines.

2. As to *size and form*. When cut into, varying according to the age from conception, generally from five to eight lines in length, being in form irregular, round or oval, and possessing a cavity or a stellated line or cicatrix.

3. As to *color*, varying also according to the period examined, if previous to the third or fourth month, frequently of a reddish brown or of a light yellow—the centre lining the cavity of a dark red. If examined towards the close of gestation, the color approaches a light or greyish yellow, having generally a white, radiated or stelliform line of a pearl color in the place of the cavity. We have noticed in one case at the full period a large cavity filled with a dark fluid, the cavity surrounded by the yellow matter about an eighth of an inch in thickness.

4. As to *structure*—which appears to be glandular, resembling somewhat a section of the human kidney, or that portion of the brain called by anatomists, *centrum ovale*. It is vascular, and capable of receiving a fine injection when thrown into the spermatic arteries.

These may be said to be the leading features or characteristics of a *true corpus luteum*.

Those of the false corpora lutea are :

1. The want of any elevation or enlargement of the ovary.

2. *The size*, which may vary, being from that of a pea down to the size of a millet seed, when it appears like a spot in the substance of the ovary.

3. *The color*, which is often of a dirty, at other times of a light yellow or grey color. It wants the glandular appearance and the central cavity lined by smooth membrane.

4. In the fact of its not being capable of receiving an injection. Dr. Montgomery has given, as one of the characteristics, the absence of the external cicatrix. "The external cicatrix," says he, "is almost always wanting." This is the case in those which arise from an enlarged Graafian vesicle, and by the subsequent absorption of the fluid, producing a puckered or shrivelled appearance; but is not the case in those which arise from a ruptured Graafian vesicle during menstruation, *which is by far the most common form of false corpora lutea*.

Having given the characteristics of the two, we come now to inquire how much value can be placed upon this body as an evidence of conception? Various have been the opinions given to this inquiry. Much discussion and numerous investigations have been called forth, and, as stated in the commencement of this paper, conflicting and unsatisfactory has been the answer. As we stated before, Blumenbach, Osiander, Sir E. Home, Blundell, and a number of other writers, believed that no

dependence could be placed upon it; whilst Haller, Cruikshank, W. Hunter, Baillie, Meckel, Montgomery, Lee, Paterson, and others, believe that it is proof positive of conception. Dr. Montgomery's words are: "If I may be allowed to add the result of my own observations, which have now been continued through a period of nearly ten years, during which time I have never omitted a single opportunity within my reach for examining the bodies of women of all ages, and under all the various circumstances of virginity, after intercourse, during gestation, and subsequent to delivery, at different periods from conception; these opportunities having been afforded by more than one large hospital, as well as in private practice. I have also dissected hundreds of the inferior animals with reference to this point, and have in my museum preparations of ovaries exhibiting the corpus luteum in different conditions in the human female, and also in cows, mares, sheep, sows, goats, bitches, cats, hares, rabbits; and my firm conviction is of the truth of both Haller's propositions, viz:—*that conception never happens without the production of a corpus luteum, and that the corpus luteum is never found in virgin animals, but is the effect of impregnation.*"

Dr. Lee says: "From all the observations hitherto made upon the true corpus luteum, we may conclude that it is never formed but as a consequence of impregnation. The yellow oval-shaped substances found in the ovaries of women who have never been pregnant, are produced by morbid states of the Graafian vesicle, and are essentially different in structure."*

Dr. Paterson is of the opinion "that a certain specific body (called the corpus luteum) is formed and left in the ovary after conception,"† different from all other bodies found in the ovary.

Dr. Gross‡ of Louisville, who, in company with Professor Parker (now of this city), has paid particular attention to this subject, is of the opinion that the researches together with the conclusions of Dr. Montgomery "upon this subject are perfectly conclusive."

From the numerous examinations which we have made of the ovaries of human females, at all ages and under all conditions of health and disease, during childhood, at puberty, before, during and after menstruation, at the various periods of gestation, and after delivery, we are firmly of the belief that the *true corpus luteum is an infallible sign of conception*; and that the great diversity of opinion which has been put forth relating to the value of this body as an evidence of conception, has arisen from the want of a proper knowledge of the physiology of the ovaries, consequently confounding and calling all yellow bodies or spots corpora lutea.

From what we have read of the writings of those who differ from this opinion, we can but believe that they have mistaken the true appearance of the corpus luteum, and hence have confounded, in their descriptions, the *false* with the *true*, either forgetting or not knowing that all yellow bodies are not true corpora lutea, and hence are in no way connected with the process of generation.

By way of illustration, we would say that cases not unfrequently arise, in which it becomes a matter of the greatest importance to distinguish between a *true* and *false* corpus luteum; and here it is that the practical

* Medico-Chir. Trans., vol. 22; also Lee on Mid., 1st Am. Edit.

† Edinburgh Med. and Surg. Jour., vol. 2, 1841.

‡ Gross's Path. Anat., 2d ed. 1846.

bearings of our subject are seen. Take the case of the four* Edinburgh medical students. A prosecution was raised against four medical students, for disinterring the body of a lady in Glasgow. The body happened to be so disfigured that it could not be identified by the relations. The ovaries, however, were examined, and it was reported that a *true corpus luteum* was found in one of them, which decided that they had not belonged to the lady in question, who was a virgin, and advanced in life. On the trial, great contradiction took place between the opinions of the medical witnesses, one half of whom asserted that the *corpus luteum* in question was a true *corpus luteum*, while the other half maintained that it was not. The body of this individual was afterwards identified by a dentist, who produced a cast of the gums." In the absence of the proof afforded by the dentist's cast, it might have been of great assistance to the students, to have established the fact of the presence of a *true corpus luteum*, as this would, in evidence before the jury, be sufficient ground for the immediate discharge of the prisoners, the prosecution having shown or testified that she "*was a virgin and advanced in life.*"

The oft quoted case of Miss Burns† is still more clear and to the point. Charles Angus, Esq., of Liverpool, was, in the fall of 1808, tried at Lancaster, for the murder of Miss Burns, a female in his family. (Owing to its length we shall not give the case entire, only such as relates to our subject.)

It appears from a review of testimony in the case that for some time previous to the death of Miss Burns, the attendants had noticed that she had increased gradually in bulk, and had the appearance of being pregnant. A few days previous to her death, she appeared to suffer great pain; she could not bear to be touched, and she was observed occasionally to hold fast with her hands to the end of the sofa on which she sat. The pains continued during the whole of Wednesday and Thursday, but on Friday morning (the day she died) they had gone off, and she could walk and appeared much smaller. She died in the course of the day. Upon dissection, the uterus was found enlarged, and capable of holding a quart of fluid. The whole internal surface was bloody; near the fundus was a well defined circular space, of a darker color than the rest, about four inches in diameter; this space was rough, and a small fragment of the placenta remained adhered to it. There were blood-vessels in it as large as a crow quill; the walls of the uterus were about half an inch in thickness. The os uteri was much dilated. "The symptoms previous to her death, and the appearances observed on dissection, were such as to warrant a supposition that she was poisoned," and that she had been recently delivered of a child, near to the full period of gestation. "Mr. Angus was indicted on two counts: 1st, For poisoning Miss Burns; and 2d, For administering poison (oil of savine) in order to procure an abortion. Accordingly, on the trial, the medico-legal questions agitated, were: 1st, Whether Miss Burns had died from the effects of poison; and 2d, *Whether she had been delivered of a child recently before her death.* The opinions of the medical witnesses examined in the case were conflicting. Drs. Gerard, Rutter, and Bostock, and Mr. Hay, considered the appearances "conclusive of a recent deliv-

* Edinburgh Med. and Surg. Jour., vol. 53, 1840, p. 60.

† Beck's Med. Juris., 6th ed., vol. 1, p. 247.

ery." Dr. Carson, for the defence, objected to such a conclusion, and considered the appearances to have been "produced by *hydatids*." Owing to the difference of opinions expressed by the medical witnesses the prisoner was acquitted. Subsequently Mr. Hay took the uterus and its appendages to London, where they were examined, and the ovaries divided in the presence of a number of physicians, and a *corpus luteum* was distinctly seen in one of them. He then received certificates from Drs. Denman and Haighton, Messrs. Henry Cline, Charles M. Clarke, Astley Cooper, and Abernethy, all stating that it exhibited appearances that could alone be explained on the idea of an advanced state of pregnancy. And it appears to have been universally allowed, that the discovery of the *corpus luteum* proved the fact beyond a doubt.

Had the ovaries been examined at the *post mortem* examination, there is but little doubt that a different verdict would have been rendered, as the discovery of a *true corpus luteum* would have proved, beyond a doubt, that conception had taken place. The supposition that *hydatids* were expelled would not have possessed any weight in evidence against such a conclusion.

177 Hudson st., Sept. 21st.

